

[0005] In Document DE 196 49 039 C1 describes a drum-type washing machine having an illumination device whose light source is located in the area of the door hinge, and in which the light input and light output surfaces of an optical waveguide are arranged in a manner allowing the interior of the laundry drum and the area in front of the loading opening to be illuminated when the door is closed and when it is open.

[0006] The light source of that illumination device is mounted in the area of the door hinge and connected to the light-emitting means via a light-conductive connection. The door glass of the door is used as the light-emitting means, said door glass being in light-conductive connection with the light source via optical waveguides. This arrangement illuminates the interior of the drum. The loading opening and the space in front of the loading opening are illuminated when the door is in the open position.

[0007] Document DE 42 20 018 A1 discloses an illumination device for a laundry appliance, where the light source is disposed in the filling ring outside the sealing area of the suds container, and in such a manner that it is accessible from outside the appliance when the door is open. In this design, the edge of the drum acts as a reflector and the door glass provides assistance as an optical waveguide. When the door is open, the area in front of the appliance is also illuminated.

[0008] In order to illuminate the area in front of the appliance, it is known from US Patent No. 3,220,229 to mount an illumination device above the loading opening of the drum, said illumination device illuminating the area in front of the appliance when the door is closed. The lamp is disposed behind a hinged service cover for the condensation device, said service cover having a glass panel to illuminate the area in front of the appliance.

SUMMARY

[0009] An object of the present invention is to provide a laundry appliance having an illumination device in a manner that allows for glare-free illumination of the edge area of the door both in appliances with a door glass and in appliances that do not have a door glass.

[0010] The present invention provides a laundry appliance. The laundry appliance includes a housing including a stamped section recessed relative to a front of the housing and circumferentially surrounding a loading opening to a rotatably mounted drum of the appliance. A door is disposed on the

door hinge (6) and the locking mechanism parts on the side of the door, which are not shown here. Illumination device (7) is disposed in the area of loading opening (2) and includes at least one light source (8). Light source (8) is disposed at door hinge (6) and is in light-conductive connection with optical waveguide (9) of illumination device (7). Optical waveguide (9) of illumination device (7) circumferentially surrounds front loading opening (2). In the area of door hinge (6), optical waveguide (9) has one or more light input surfaces and is in light-conductive connection with light source (8) at door hinge (6). Optical waveguide (9) is provided with light output surfaces in the circumferential direction, which is represented in the drawing by the dots distributed over the periphery.

[0017] FIG. 2 is a side view showing the area of loading opening (2) and illumination device (7) with door (3) in the closed position. Loading opening (2) is located in a stamped section (10, 11) which is set back from housing front (1) of the appliance and provides a stop surface (10, shown shaded in FIG. 1) for door (3).

[0018] Edge surface (11), which surrounds stop surface (10) of the stamped section, is shaped as a truncated cone. In the closed position, door (3) is received in the stamped section in housing front (1) approximately flush therewith. Retaining ring (5) for door glass (4) is provided on the front with an annular cover (12) which, when door (3) is closed, partially covers the annular gap (13) that exists between retaining ring (5) and edge surface (11) surrounding circular stop surface (10) and which has the dimension X (gap area).

[0019] The light of concealed illumination device (7) is reflected at edge surfaces (11) of the stamped section and at stop surface (10). Thus, annular gap (13) is uniformly illuminated, so that an illuminating ring becomes visible toward housing front (1).

[0020] FIGS. 3a and 3b are schematic cross-sectional side views of a stamped section (10, 11) having a truncated-cone-shaped edge surface (11), in which is received an integrated illumination device (7) including optical waveguide (9). Shaded area (14) is intended to symbolize the adjacent drum of the laundry appliance.

[0021] FIG. 3c is a schematic cross-sectional side view of a stamped section (10, 11) having a truncated-cone-shaped edge surface (11), in which is received another embodiment of integrated illumination device (7). In this embodiment, the illumination device (7) is in the

form of LEDs (15) which are arranged circumferentially around the loading opening in stamped section (10, 11) and backlight a diffuser or a diffusing screen (16).

[0022] The above-described variants of the illumination devices make it possible to indicate different operating states of the appliance. The light sources can, for example, be driven such that, for example, blinking white light symbolizes the program start. Moreover, it is possible to additionally provide colored light sources which can be used to indicate malfunctions (red light) or the end of the program (green light), when driven accordingly. The illumination device can be similarly arranged in laundry machines having a door of closed design which does not have a door glass.

[0023] The present invention is not limited to the exemplary embodiments described herein; reference should be had to the appended claims.